

Coronary Artery Vasculopathy

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A type of coronary (heart) artery disease that can occur after a transplant is known as coronary artery vasculopathy (CAV).

CAV causes arteries in your heart to thicken and narrow. It is believed to be a form of chronic (long-term) heart rejection. It is the most common cause for getting another heart transplant (known as re-transplantation).

How Often CAV Occurs

Here is how common CAV is after transplant:

- 1 year: 8 in 100 people (8%)
- 5 years: 30 in 100 people (30%)
- 10 years: 50 in 100 people (50%).

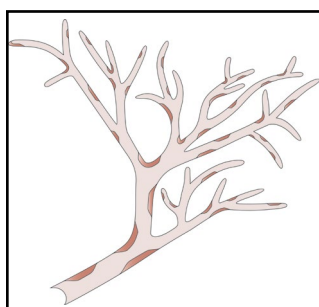
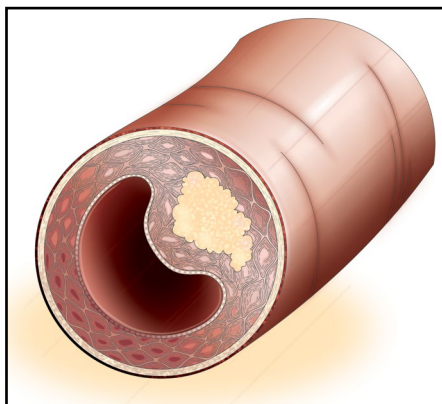
Causes of CAV

The exact cause of CAV is unknown. You are at risk for CAV if you:

- have donor-specific antibodies (These are antibodies made by your immune system to attack your donor heart.)
- do not take your immunosuppression medicine or have low immunosuppression medicine levels outside of your goal range
- have an acute (sudden) rejection of the donor heart (This can happen at any time. It's important you take your immunosuppression medicines as directed and do not miss a dose.)
- have high blood pressure, high lipids or high cholesterol
- have a viral infection.

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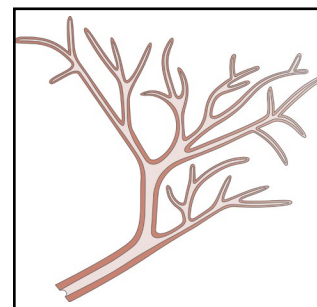
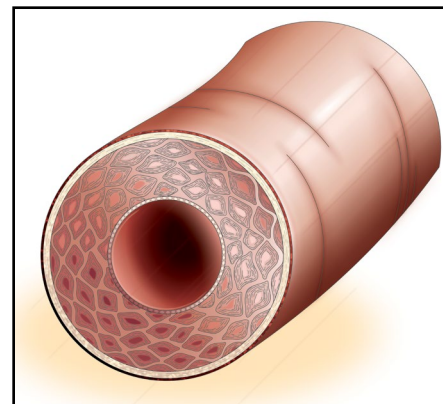
Atherosclerosis (Found in Non-transplanted Hearts)



Atherosclerosis is a blockage of the arteries and is most often caused by a gradual build-up of plaque (fatty deposits) inside the arteries.

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Vasculopathy (Found in Transplanted Hearts)



Vasculopathy is the thickening and narrowing of the arteries in your heart.

How to Prevent CAV

Members of your transplant team will talk with you about how to prevent CAV.

Your options may include:

- maintaining a healthy weight
- treating high blood pressure (may include medicine)
- treating high cholesterol (may include medicine)
- treating diabetes
- taking aspirin every day
- not using any tobacco products
- getting regular exercise
- having exams every year
- taking vitamin E and C.

How to Treat CAV

Members of your transplant team will talk with you about your options such as:

- changes to your medicine: sirolimus (Rapamune®) or everolimus (AFINITOR®) to slow the progression of CAV (keep it from getting worse)
- high-intensity exercises to slow the progression of CAV
- percutaneous coronary angioplasty if the CAV causes lack of blood flow to certain areas of you heart
- re-transplantation (another heart transplant).

It is possible to live with vasculopathy as long as it does not get worse.

How Your Transplant Team Will Screen You

You will have screening tests every year.

- **Angiogram:** This X-ray imaging scan looks at your heart and the arteries that supply your heart with blood. This is the main test.
 - You will have an **intravascular ultrasound** during your first 2 angiograms to measure the thickness of the arteries in your heart.
- **PET (positron emission tomography) scan:** This creates a 3-D view of your heart. It looks at the perfusion in your heart to make sure there is enough blood and oxygen flowing through your heart tissues.
- **CT (computed tomography) angiography:** This imaging uses a CT scan to look at your heart and blood vessels.